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SERIAL NUMBER	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/094,896 07/22/93 NAGANO

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EXAMINER	

DAY, M

ART UNIT	PAPER NUMBER
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2211

DATE MAILED:

05/12/95

This is a communication from the examiner in charge of your application.
COMMISSIONER OF PATENTS AND TRADEMARKS

☒ This application has been examined. ☒ Responsive to communication filed on 16 Feb '95 ☒ This action is made final.

A shortened statutory period for response to this action is set to expire 3 month(s), — days from the date of this letter.
Failure to respond within the period for response will cause the application to become abandoned. 35 U.S.C. 133

Part I THE FOLLOWING ATTACHMENT(S) ARE PART OF THIS ACTION:

1. ☒ Notice of References Cited by Examiner, PTO-892.
2. ☐ Notice of Draftsman's Patent Drawing Review, PTO-948.
3. ☐ Notice of Art Cited by Applicant, PTO-1449.
4. ☐ Notice of Informal Patent Application, PTO-152.
5. ☐ Information on How to Effect Drawing Changes, PTO-1474.
6. ☐

Part II SUMMARY OF ACTION

1. ☒ Claims 1-12, +13-45 are pending in the application.

Of the above, claims 13-45 are withdrawn from consideration.

2. ☐ Claims — have been cancelled.
3. ☐ Claims — are allowed.
4. ☒ Claims 1-12 are rejected.
5. ☐ Claims — are objected to.
6. ☒ Claims 13-45 are subject to restriction or election requirement.

7. ☐ This application has been filed with informal drawings under 37 C.F.R. 1.85 which are acceptable for examination purposes.

8. ☐ Formal drawings are required in response to this Office action.

9. ☐ The corrected or substitute drawings have been received on —. Under 37 C.F.R. 1.84 these drawings are ☐ acceptable; ☐ not acceptable (see explanation or Notice of Draftsman's Patent Drawing Review, PTO-948).

10. ☐ The proposed additional or substitute sheet(s) of drawings, filed on —, has (have) been ☐ approved by the examiner; ☐ disapproved by the examiner (see explanation).

11. ☒ The proposed drawing correction, filed 16 Feb '95, has been ☒ approved; ☐ disapproved (see explanation).

12. ☐ Acknowledgement is made of the claim for priority under 35 U.S.C. 119. The certified copy has ☐ been received ☐ not been received ☐ been filed in parent application, serial no. —; filed on —.

13. ☐ Since this application appears to be in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under Ex parte Quayle, 1935 C.D. 11; 453 O.G. 213.

14. ☐ Other —

EXAMINER'S ACTION

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Part III DETAILED ACTION

Response to Amendment

1. Amendment A (paper 4) filed on 1 March 1995 has been considered.
2. Applicant's arguments filed on 1 March 1995 have been fully considered but they are not deemed to be persuasive.

Specification

3. The disclosure is objected to because of the following informalities: Referring to page 26, lines 17-21, it is unclear to the Examiner as to how to change the sensitivity level of pixels of the image pickup element. Here the Examiner assumes that the Applicant is referring to clocking the integration and control gate (see ref. Loral, page 334), however, brief tutorial would be greatly appreciated. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person

having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

5. Claims 1-4, 7, and 8 are rejected under 35 U.S.C. § 103 as being unpatentable over Toda et al. Toda et al. disclose a camera (electronic endoscope) including: a material element (see FIG. 43, liquid crystal iris 412) for controlling a material characteristic of said material element to affect at least one of a light transmission factor and a light transmission amount (see col. 28, lines 52-60); a photoelectric conversion means (CCD 411) for receiving an optical image transmitted through said material element at a position of an image plane, and for converting the optical image into an electrical image; and a correction means (white balance correction circuit 427) for correcting the light transmission factor wavelength dependency of said material element in accordance with at least one of the light transmission factor characteristics and the light transmission amount characteristics of said material element (see col. 29, lines 35-42). Consequently, it is the position of the Examiner that it would have been obvious to one of ordinary skill in the art that the electronic endoscope, as disclosed by Toda et al.,

is at least a fully functional equivalent to the Applicant's claimed camera as evidenced by Toda et al. suggestion all of the Applicant's claimed structural and functional limitations.

Referring to claim 2, Toda et al. disclose an endoscope wherein the correction means adjusts a correction amount in accordance with at least one of the light transmission factor and the light transmission amount of said material element (see col. 29, lines 22-25).

Referring to claim 3, Toda et al. disclose an endoscope wherein the correction by the correction means is achieved by auto white-balance control (see col. 29, lines 22-25, white-balance correction circuit 427) of an output signal from said photoelectric conversion means.

Referring to claim 4, Toda et al. disclose an endoscope including all of the limitations of claim 1, as described above. It is unclear as to whether Toda et al. disclose an endoscope wherein the correction by the correction means is achieved by changing the sensitivity of said photoelectric conversion means in accordance with a light wavelength. Toda et al. disclose an endoscope wherein the correction by the correction means is achieved by changing the gain of the photoelectric conversion means in accordance with a light wavelength (see col. 29, lines 35-36). Consequently, it is the position of the Examiner that the method of correction is functionally equivalent to the Applicants claimed method. As the Applicant has not shown this

specific claim limitation to solve a problem, and present no novel, or unexpected result over the prior art, correction by the correction means by changing the sensitivity of said photoelectric conversion would be a matter of obvious design choice within the purview of one of ordinary skill in the art (see, In re Kuhle, 188 USPQ 7 (CCPA 1975)). Further, on page 31, line 20, the Applicant admits that this is not a critical design feature of the present invention.

Referring to claim 7, Toda et al. disclose an endoscope wherein the correction means includes a storage means (see FIG. 45, color correcting control circuit 432 includes color correcting memory 440) for storing the light transmission factor wavelength dependency of said material element (see col. 31, lines 3-6).

Referring to claim 8, Toda et al. disclose an endoscope wherein the storage means stores a plurality of correction amounts (see col. 31, lines 9-12).

6. Claims 5-6 are rejected under 35 U.S.C. § 103 as being unpatentable over Toda et al. in view of Kley. Toda et al. disclose all of the limitations of claim 1, as previously described. It is unclear as to whether Toda et al. disclose the use of a filter as a means for correcting light transmission dependency of the material element. Filters are well known in the art for correcting for wavelength dependency of material

elements. For example, minus blue filters are well known means in photograph for correcting smoke and haze in the atmosphere and are often used in photography in order to get a clear image of the subject as light scattering is wavelength dependent. Kley discloses the use of a filter (color unit of FIG. 69) for the control of light transmission to achieve white light (see col. 31, lines 37-55, also FIG. 67, color units 1164, 1166, 1168, 1170, 1172). It would have been obvious to one skilled in the art to use a filter, such as, a color unit of FIG. 69, as taught by Kley, in the endoscope, as taught by Toda et al., in order to correct for the wavelength dependency of the material element, and thereby obtain a color correct image of the subject object.

Referring to claim 6, Kley discloses the use of another material element as a correction means for controlling the transmission factor, and a correction means (white balance correction circuit 427) for correcting the light transmission factor wavelength dependency of said material element in accordance with at least one of the light transmission factor characteristics and the light transmission amount characteristics of said material element. Same reason for combining art as in claim 5.

7. Claims 9-12 are rejected under 35 U.S.C. § 103 as being unpatentable over Tani et al. Referring to claim 9, Tani et al.

disclose a camera including: a material element for controlling a material characteristic of said material element to affect the light transmission factor (see FIG. 1, diaphragm 12); a photographic conversion means (imaging device 10) for receiving an optical image transmitted through said material element at a position of an image plane, for converting the optical image into an electrical image signal, and capable of adjusting light accumulation time (see abstract, lines 13 and 14); and an exposure amount adjusting means (microcomputer 20) for adjusting the light transmission amount, and the light accumulation time. Consequently, it is the position of the Examiner that it would have been obvious to one of ordinary skill in the art that the electronic endoscope, as disclosed by Tani et al., is at least a fully functional equivalent to the Applicant's claimed camera as evidenced by Tani et al. suggestion all of the Applicant's claimed structural and functional limitations.

Referring to claim 10, Tani et al. discloses a camera wherein the exposure amount adjusting means electrically adjusts the light transmission amount. Here it is noted that microcomputers, such as microcomputer 20, are known to be electrical.

Referring to claim 11, Tani et al. disclose a camera wherein the exposure amount adjusting means adjusts the light transmission amount in accordance with the incident light (see abstract, lines 5-14).

Referring to claim 12, Tani et al. disclose a camera wherein the exposure amount adjusting means comprises storage means for storing at least one relationship between at least one of the light transmission amount and the accumulation time of the photoelectric conversion means (see col. 5, lines 27-55, here it is noted that the charge accumulation time depends on the shutter speed (see abstract, lines 13 and 14)).

8. Referring to amendment A (filed on 1 March 1995), page 14, lines 1-11, the Applicant alleges that Toda et al. neither disclose nor suggest a camera including: a material element arranged in a photographing optical system for controlling a material characteristic of said material element to affect at least one of a light transmission factor and a light transmission amount; and a correction means for correcting the light transmission factor wavelength dependency of said material element in accordance with at least one of the light transmission factor characteristics and the light transmission amount characteristics of said material element, as recited in claim 1. The Examiner respectfully disagrees for the reasons described in the rejection of claim 1, supra.

9. Referring to amendment A (filed on 1 March 1995), page 14, line 12 through page 15, line 4, the Applicant alleges that Tani et al. neither discloses nor suggests a camera including: a

material element arranged in a photographing optical system for controlling a material characteristic of said material element to affect at least one of a light transmission factor and a light transmission amount, and an exposure amount adjustment means for adjusting at least one of the light transmission factor and the light transmission amount of the material element, and at least one of the light accumulation time and the sensitivity of the photoelectric conversion means, as recited in claim 9. The Examiner respectfully disagrees for the reasons described in the rejection of claim 1, supra.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Tsuchiva, Jeon, Choi, Lam et al., and Yabe et al., all disclose aspects of the present invention.

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 C.F.R. § 1.136(a).

A SHORTENED STATUTORY PERIOD FOR RESPONSE TO THIS FINAL ACTION IS SET TO EXPIRE THREE MONTHS FROM THE DATE OF THIS ACTION. IN THE EVENT A FIRST RESPONSE IS FILED WITHIN TWO MONTHS OF THE MAILING DATE OF THIS FINAL ACTION AND THE ADVISORY ACTION IS NOT MAILED UNTIL AFTER THE END OF THE THREE-MONTH SHORTENED STATUTORY PERIOD, THEN THE SHORTENED STATUTORY PERIOD WILL EXPIRE ON THE DATE THE ADVISORY ACTION IS MAILED, AND ANY EXTENSION FEE PURSUANT TO 37 C.F.R. § 1.136(a) WILL BE CALCULATED FROM THE MAILING DATE OF THE ADVISORY ACTION. IN NO EVENT WILL THE STATUTORY PERIOD FOR RESPONSE EXPIRE LATER THAN SIX MONTHS FROM THE DATE OF THIS FINAL ACTION.

Serial Number: 08/094896
Art Unit: 2211

-10-

12. This application contains claims 13-45 drawn to an invention non-elected with traverse in Paper No. 5, dated 13 June 1994. A complete response to the final rejection must include cancellation of non-elected claims or other appropriate action (37 C.F.R. § 1.144) M.P.E.P. § 821.01.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Day whose telephone number is 703/305-4941. The examiner can normally be reached on Monday-Friday, from 0800 to 1700 hours.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Donald Yusko, can be reached by phoning 703/308-4704. The Fax phone number is 703/308-7382.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is 703/305-4900.

Michael Day

5 May 1995



DONALD YUSKO
SUPERVISORY PATENT EXAMINER
GROUP 2200